Warning:

Wearing gloves is highly recommended when handling the kit contents.

GeBAflex-tube is covered by the WO0190731 patent application assigned to Gene Bio-Application Ltd.

GeBAflex-tubes are autoclaved and are bacterial free.

All kit buffers are filtered, autoclaved and are bacterial free.

GeBAflex-tubes **membrane is ultra-clean, sulfur and heavy metal free and EDTA treated.**

Maxi GeBAflex-tube Gel Extraction and Dialysis Kit (3 ml) Handbook

Table of Contents

Applications

- Extraction of proteins, RNA, DNA or oligonucleotides (>20 nt) from polyacrylamide, agrose or any gel matrix in any running buffer.
- Extraction of protein-protein, DNA-protein or RNA-protein complexes.
- Dialysis or buffer exchange of volumes between 0.1-3 ml.
- Preparation of protein samples for MALDI-MS.
- Samples concentration

Maxi *GeBAflex-tube* Kit Contents

Maxi GeBA*flex*-tube kit	**For Extractio**	**For Dialysis**
Maxi GeBA*flex*-tubes 3 ml	5/15 units	5/15 units
Maxi GeBA*flex*-tubes caps 3 ml	5/15 units	5/15 units
Maxi GeBA*flex*-tubes caps 2 ml	-	5/15 units
Supporting tray (for electro elution protocols)	1	-
Floating rack (for dialysis protocol)	1	1
MS Buffer for preparation of protein for MALDI-MS analysis **(provided on request)**	5 ml	-
Information and protocols handbook	1	1

Maxi *GeBAflex-tube* & *ProteoCon* Kit Contents.

For extraction and concentration of proteins by *GeBAflex-tube* & *ProteoCon* kit (see Ordering Information):

Maxi *GeBAflex-tube* kit (see page 5)	**5 units**	**15 units**
***ProteoConD* kit (Cat # PN010)**	**5 units**	**15 units**
ProteoCon columns (concentration columns)	5	15
Collection tubes	5	15
ProteoConD beads	1.2 ml	3.4 ml
Buffer WB*D* (washing buffer)	15 ml	30 ml
Buffer EB*D* (elution buffer)	1 ml	2 ml
Information and protocols manual	1	1
SDS removing buffer (provided on request) (Cat # PDS010)	**1 bottle**	**2 bottles**
Buffer WB*D2* (washing buffer)	30 ml	60 ml
***ProteoConN* kit (Cat # PD010)**	**5 units**	**15 units**
ProteoCon columns (concentration columns)	5	15
Collection tubes	5	15
ProteoConN beads	0.6 ml	1.7 ml
Buffer WB*N* (washing buffer)	15 ml	30 ml
Buffer EB*N* (elution buffer)	1 ml	2 ml
Information and protocols manual	1	1

Storage Conditions

GeBAflex-tube kit must be stored in a dry place at room temperature (15-25^{o}C). Under these conditions, *GeBAflex-tube* kit can be stored for up to 12 months without any deterioration in performance and quality. For longer storage time, it is recommended that the *GeBAflex-tube* kit be stored in a cool place (refrigerator), at relative humidity of 35% at least.

Product Use Limitations

GeBAflex-tube kit is developed, designed and sold for research purposes only. It is not to be used for human diagnostic purposes or drug production nor for producing any substance intended to be administered to humans unless expressly cleared for that purpose by the Food and Drug Administration in the USA or the appropriate regulatory authorities in the country of use. All due care and attention should be exercised in the handling of materials described in this text.

Quality Control

The performance of *GeBAflex-tube* kit is regularly monitored. *GeBAflex-tube* kit is tested by using it for extraction of Proteins, DNA and RNA fragments of various sizes from either agarose or polyacrylamide gel. *GeBAflex-tube* kit is tested also for simple dialysis of salts or buffer exchange. The quality of the isolated Protein, DNA and RNA fragments or of the sample after dialysis is checked by several assays commonly used for proteins, nucleic acids and dialysis. Determining the recovery from a specific amount of loaded sample tests the quality and efficiency of the *GeBAflex-tube* membrane.

GeBAflex-tube

The device combines two modes of action, electro-elution of macromolecules from polyacrylamide or agarose gel and dialysis or buffer exchange at volume samples between 0.1-3 ml. This device allows rapid and high performance at either mode and extracts the macromolecules without any contamination. By changing the caps, provided with the kit, maxi *GeBAflex-tube* can easily adjust the dialysis volume between 0.1-3 ml.

Yield of Molecule Recovery

DNA or RNA from agarose gel	90%
DNA or RNA from polyacrylamide gel	90%

Protein from SDS-PAGE	70%

Specifications

Membrane Cut-Off	3500, 6000- 8000 or 12000-14000 MWC MWCO
Membrane	Ultra-clean. Sulfur and heavy metal free. EDTA treated
Tube volume capacity	3 ml
Minimum amount of protein at the start of extraction	20 µg
Maximum size of the gel slice that can be inserted into the tube	2 cm x 1 cm
Volume of sample for dialysis	0.1-3 ml

Protein Extraction from Polyacrylamide Gel with *GeBAflex-tube*

IMPORTANT: Fixation of proteins before electro elution **(e.g. fixation with methanol, acetic acid, etc)** is not recommended; fixation greatly reduces extraction yield. A sensitive protein staining solution, **SeeBand (from Gene Bio-Application Ltd, see Ordering Information, page 30),** is a good staining reagents, as it permanently stain the gel without undue fixing of the protein.

Procedure

1. **Fill the *GeBAflex-tube* with 2-3 ml of dH_2O; incubate for at least 5 min. empty the tube**.

   IMPORTANT: Check carefully that no dH_2O is leaking from the tube. Absorbent of water, by the dry membrane, cause the decrease in water level.

2. **After staining the gel (with SeeBand protein staining solution), excise the gel slice containing the protein with a clean, sharp scalpel.**

   Minimize the size of the gel slice by removing extra gel. Maximum gel slice size 2 cm x 1 cm.

   Using the *SeeBand* staining solution (see Ordering Information, page 30) will result in highest recovery yield of proteins from the gel.

3. **Transfer the gel slice to a *GeBAflex-tube*. Fill the tube with protein-running buffer (2.5-3 ml). Close the tube gently with Maxi *GeBAflex-tube* 3 ml cap.**

   Avoid air bubbles in the tube. **Do not fill the tube with several gel slices,** for larger gel slices use more than one tube.

4. **Place the *GeBAflex-tube* in the provided supporting tray (see Figure 1).**

   The supporting tray can hold 1-3 *GeBAflex-tube(s)*.

   IMPORTANT: The two membranes of the *GeBAflex-tube* must be in perpendicular to the electric field to permit the electric current to pass through the tube.

Figure 1: Insertion of the *GeBAflex-tube* in the provided supporting tray. The arrow on the cap is positioned face-up.

5. **Place the supporting tray containing the *GeBAflex-tube(s)* in a horizontal electrophoresis tank containing protein running buffer (see Figure 2).**

   IMPORTANT: Immerse **fully** the *GeBAflex-tube(s)* with the tray in the buffer.

Figure 2: Supporting tray containing three the *GeBAflex-tubes* in a horizontal electrophoresis tank. The arrow on the cap is positioned face up and the two membranes of the *GeBAflex-tube* are in perpendicular to the electric field.

6. **Pass electric current (usually at 100 volt) until the protein exits from the gel slice.**

   Electro-elution time is to be adjusted for each individual sample. It takes at least 165 min for BSA protein to be electro-eluted from a 10% SDS-PAGE slice, size 1 X 2 cm (see Table 1, page 12).

7. **Reverse the polarity of the electric current for 120 seconds.**

   This step will release the protein from the membrane.

8. **Open the *GeBAflex-tube* gently, pipetting the protein-containing solution up and down carefully (at least 5 times) and transfer the solution to a clean tube.**

   Do the pipetting on the inner side of the membrane.

Important Notes:

i. Use the extracted protein directly.

ii. Concentrate the extracted protein by ProteoCon*N* or ProteoCon*D* kits (see Ordering Information Cat # PDT030, PDT035, PNT030 and PNT035 page 28-29).

iii. Precipitate the extracted protein by standard precipitation protocols (see page 13).

iv. Dialyze directly the extracted protein with a clean *GeBAflex-tube* (see page 18).

Elution Time Table

The elution time depends on the size of the protein molecule to be eluted, the applied voltage, the size of gel slice, the ratio of the polyacrylamide:bisacrylamide and the percentage of the polyacrylamide gel. **Electro-elution time at the elution step was to be adjusted for each individual sample**.

Table 1: Minimum time needed to extract different-sized proteins from 10% SDS-polyacrylamide gel (29:1 polyacrylamide:bisacrylamide) at 100 V, in 1XPRB: 0.192M Glycine, 0.025M Tris-base and 0.1% SDS.

Protein (kDa)	Time (min)	Protein (kDa)	Time (min)
14.4	50-60	66.2	150-160
18.4	55-65	116	180-190
25	70-80		
35	110-120		
45	130-140		

Protein precipitation protocols

Trichloroacetic acid (TCA) precipitation procedure

1. Add equal volume of 20% TCA to the tube containing the extracted protein solution and mix properly.

   For example, add 3 ml of 20% TCA to a 3 ml sample.

2. Incubate 60 min in 4°C.

3. Spin the tube at 4°C for 30 min at 14,000 RPM.

4. Discard supernatant carefully.

5. Add 2 ml cold acetone.

6. Incubate at -20°C for 60 min and centrifuge the sample at 4°C for 30 min at 14,000 RPM.

   To increase protein precipitation yield incubate the samples over night at –20°C.

7. Discard supernatant and air-dry the pellet.

8. Resuspend the pellet using 0.1M NaOH (**use at least 0.1 ml to perform resuspension**).

MS precipitation procedure (recommended when protein-bound SDS need to be removed)

1. Add 1:10 by volume of MS buffer (see Ordering Information page 30) to the protein containing solution and mix properly.

   For example, add 0.3 ml of MS buffer to a 3 ml sample.

2. Incubate for 15 min at room temperature.

3. Add 1: 2 by volume of 20% TCA and mix properly.

   For example, add 1.65 ml of 20% TCA to a 3.3 ml sample.

4. Incubate for 1 hour at 4°C.

5. Centrifuge the sample at 4°C for 30 min at 14,000 RPM.

6. Carefully descent the supernatant without disturbing the pellet.

7. Add 2 ml of ice-cold acetone.

8. Incubate at -20°C for 30 min and centrifuge the sample at 4°C for 30 min at 14,000 RPM.

   To increase protein precipitation yield incubate the samples over night at –20°C.

9. Carefully descent the supernatant without disturbing the pellet. Air-dry the pellet.

10. Resuspend the pellet in a suitable buffer solution or 0.1M NaOH (**use at least 0.1 ml to perform resuspension**).

Protein Extraction from Polyacrylamide Gel compatible with Matrix-assisted Laser Desorption/Ionization Mass Spectrometry (MALDI-MS) by Maxi *GeBAflex-tube*

Introduction

Sodium dodecylsulfate-polyacrylamide gel electrophoresis (SDS-PAGE) is a widely used technique for the separation and molecular weight estimation of individual proteins. However, the accuracy of this molecular weight determination is often inadequate for protein characterization. More recently Matrix-assisted Laser Desorption/Ionization Mass Spectrometry (MALDI-TOFMS) has found widespread use for the determination of molecular mass of intact proteins isolated from gels. The isolation of proteins from gels with the newly developed *GeBAflex-tube* electro-elution system provides 80% recovery yields. This combination of SDS-PAGE, *GeBAflex-tube* electro-elution system and MALDI-TOFMS is attractive. It provides a much more accurate determination of protein molecular weight. Moreover, even difficult proteins to analyze such as integral membrane proteins (hydrophobic) or high molecular mass proteins can be analyzed. This unique method provides a powerful means for characterizing endogenous proteins of wide molecular weight range separated by SDS-PAGE.

The combination of the three methods provides significantly improved protein yield and SDS free samples. The end result is a MALDI-MS analysis with greater sensitivity. The *GeBAflex-tube* tool provides high protein yield recovery, and the MS buffer contained in the *GeBAflex-tube* kit thoroughly removes the SDS.

Procedure

1. **Fill the *GeBAflex-tube* with 3 ml of dH_2O; incubate for at least 5 min., empty the tube.**

   IMPORTANT: Check carefully that no dH_2O is leaking from the tube. Absorbent of water, by the dry membrane, cause to the decrease in water level.

2. **After staining the gel (with *SeeBand*, see Orderings Information page 30), excise the gel slice containing the protein with a clean, sharp scalpel.**

   Minimize the size of the gel slice by removing extra gel.
   Maximum gel slice size 2 cm x 1 cm.

   Using *SeeBand* staining solution will result in highest recovery yield of proteins from gel.

3. **Transfer the gel slice to a *GeBAflex-tube*. Fill the tube with protein running buffer: 250 mM Tricine pH 8.5, 0.025% SDS and 25 mM Tris-Base. Close the tube gently with Maxi *GeBAflex-tube* 3 ml cap.**

   Avoid air bubbles in the tube. **Do not fill the tube with several gel slices,** for large gel slices use more than one tube.

4. **Place the *GeBAflex-tube* in the provided supporting tray (see Figure 1, page 10).**

   The supporting tray can hold 1-3 *GeBAflex-tube(s)*.

5. **Place the supporting tray containing the *GeBAflex*-tube(s) in a horizontal electrophoresis tank filled with protein-running buffer: 250 mM Tricine pH 8.5, 0.025% SDS and 25 mM Tris-Base (see Figure 2 page 11).**

   IMPORTANT: Immerse **fully** the *GeBAflex-tube(s)* with the tray in the buffer.

6. **Pass electric current at 150 volt until the protein exits from the gel slice.**

   The electro-elution time is to be adjusted for each individual sample. It takes at least 2.5 hours for BSA protein to be electro-eluted from a 10% SDS-PAGE gel slice in the size of 2 x 1 cm.

For other proteins from BSA, increase electro elution time presented in **Table 1** page 12, by 30%.

7. **Reverse the polarity of the electric current for 120 seconds.**

   This step will release the protein from the membrane.

8. **Open the *GeBAflex-tube* gently, pipetting the protein-containing solution up and down carefully (at least 5 times) and transfer the solution to a clean tube.**

   Do the pipetting on the inner side surface of the membrane.

   For important notes: See page 12.

Protein precipitation protocol for analysis by MALDI-MS

1. Add 1:10 by volume of MS buffer (see Ordering Information, page 30) to the protein containing solution and mix properly.

   For example, add 0.3 ml of MS buffer to a 3 ml sample.

2. Incubate for 15 min at room temperature.

3. Add 1: 5 by volume of 50**%** TCA and mix properly.

   For example, add 0.66 ml of 50% TCA to a 3.3 ml sample.

4. Incubate for 1 hour at 4°C.

5. Centrifuge the sample at 4°C for 30 min at 14,000 RPM.

6. Carefully descent the supernatant without disturbing the pellet.

7. Add 2 ml of ice-cold acetone.

8. Incubate at -20°C for 30 min and centrifuge the sample at 4°C for 30 min at 14,000 RPM.

   To increase protein precipitation yield incubate the samples over night at –20°C.

9. Carefully descent the supernatant without disturbing the pellet. Air-dry the pellet.

10. For mass spectrometric analysis resuspend the pellet in appropriate solution compatible with MALDI-MS (protein characteristic is important for determination the appropriate solution) followed by essential dilution step according to the protocols compatible with MALDI-MS. Use at least 100 µl to perform resuspension.

Dialysis with *GeBAflex-tube*

Important: To perform dialysis between 0.1-2 ml use ***GeBAflex-tube*** 2 ml cap. To perform dialysis between 2-3 ml use ***GeBAflex-tube*** 3 ml cap.

Figure 3: Dialysis with *GeBAflex-tube*.

Procedure

1. **Fill the *GeBAflex-tube* with 2-3 ml of dH_2O; incubate for at least 5 min. empty the tube.**

   IMPORTANT: Check carefully that there is no dH_2O leaking from the tube. Absorbent of water, by the dry membrane, cause to the decrease in water level.

Load sample into the *GeBAflex-tube*. Close the tube with the provided caps. For sample volume less then 2 ml use Maxi *GeBAflex-tubes* 2 ml caps (the long cap, see right side at Figure 4, page 20). For sample volume between 2-3 ml use *GeBAflex-tubes* 3 ml cap (the short cup, see left side at Figure 4, page 20).

Sample volume should be in the range of 0.1-3 ml. If small volume is used (e.g., 100 µl), load the sample close to the inner membrane.

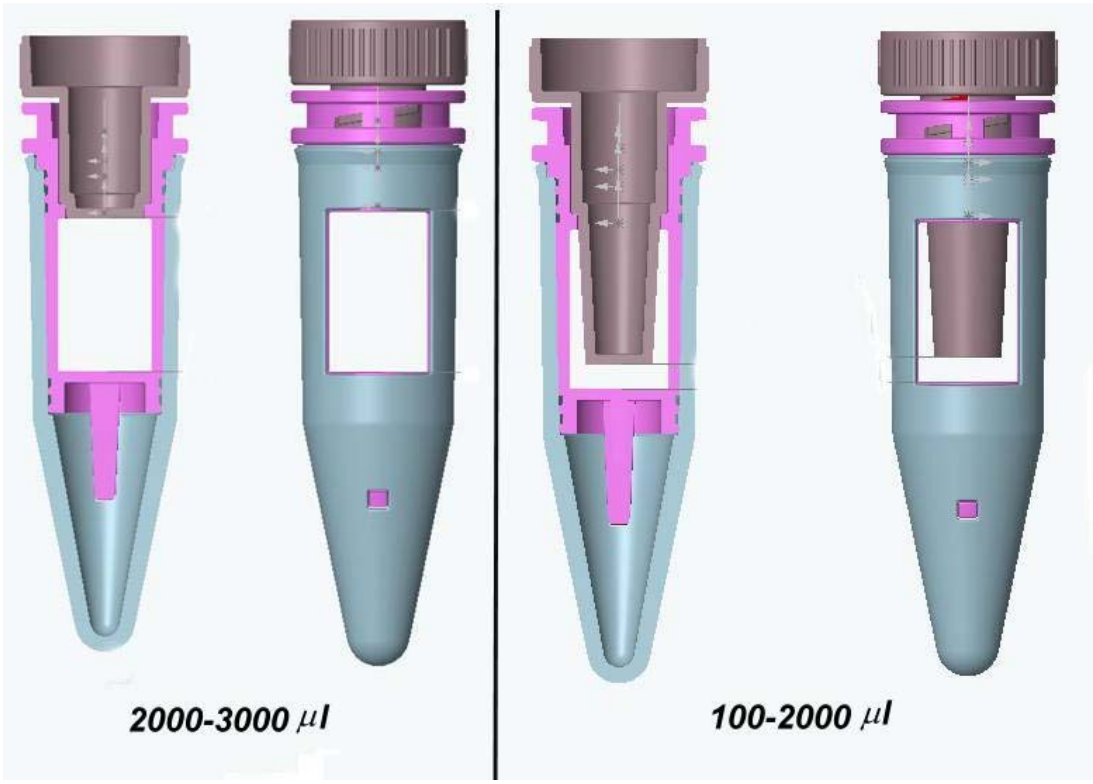

Figure 4: Dialysis with Maxi *GeBAflex-tube*: Changing cap offer flexibility in the *GeBAflex-tube* dialysis volume that range from 0.1 up to 3 ml.

2. **Place the loaded *GeBAflex-tube* in the supplied floating rack in a stirred beaker containing large volume (usually 100 to 1000-fold that of the sample) of the desired buffer.**

   The floating rack can hold 1-7 *GeBAflex-tube(s)*.

   Adjust the stir bar speed. Allow at least 30 min for each 0.1 ml of sample. Low-molecular weight salts and buffers (e.g., Tris·Cl and

KPO_4) equilibrate within 3 hours. Equilibration times for viscous samples will be longer.

IMPORTANT: The user must determine exact equilibration times for the dialysis.

3. **Change the dialysis buffer as necessary.**

4. **Pipet out the sample carefully from the *GeBAflex-tube* to a clean tube.**

   If sample volume increased during dialysis, let your sample evaporate on the bench top (using a fan to increase airflow across the membrane will speed up the process), making sure to check every 10 min or less to prevent evaporation to dryness.

Sample Concentration by evaporation with *GeBAflex-tube*

GeBAflex-tubes are ideally suited for sample concentration via evaporation because of their dual membranes and large surface area. Dialysis and concentration in the same device reduce protein loss. Unlike closed-system centrifuge-type devices, sample concentration can be easily monitored in the *GeBAflex-tubes.*

1. **Place a sample in the *GeBAflex-tube* or use already dialyzed sample and place it on microtube rack stand.**

2. **Let your sample evaporate on the bench top (using a fan to increase airflow across the membrane will speed up the process), making sure to check every 10 min or less to prevent evaporation to dryness. When concentrating by evaporation the water from your sample, the small molecule (buffer salts, reducing agents, etc.) will also be concentrated because no diffusion occurs.**

   IMPORTENT: When evaporating water from your sample, small molecules (buffer salts, reducing agents, etc.) will also be concentrated.

DNA and RNA Extraction from Gel with *GeBAflex-tube*

This procedure is designed to extract DNA or RNA from polyacrylamide or agarose gels.

Procedure

1. **Fill the *GeBAflex-tube* with 2-3 ml of dH_2O, incubate for at least 5 min, empty the tube.**

   IMPORTANT: Check carefully that no dH_2O is leaking from the tube. Absorbent of water, by the dry membrane, cause to the decrease in water level.

2. **Excise the slice of gel containing the desirable DNA or RNA fragment with a clean, sharp scalpel.**

   Minimize the size of the gel slice by removing extra gel. Maximum gel slice size 2 cm x 1 cm.

3. **Transfer the gel slice to a *GeBAflex-tube*. Fill the tube with 2-3 ml dH_2O. Close the tube gently with *GeBAflex-tube* 3 ml cap.**

   Avoid air bubbles in the tube. D**on't fill the tube with several gel slices**, for larger gel slices use more than one tube.

4. **Place the *GeBAflex-tube* in the provided tray (see Figure 1 page 10).**

   The supporting tray can comprise 1-3 *GeBAflex-tube(s)*.

   IMPORTANT: The two membranes of the *GeBAflex-tube* must be in perpendicular to the electric field to permit the electric current to pass through the tube.

5. **Place the supporting tray containing the *GeBAflex-tube(s)* in a horizontal electrophoresis tank containing running buffer (see Figure 2 page 12).**

   IMPORTANT: Immerse **fully** the *GeBAflex-tube(s)* with the tray in the buffer.

6. **Pass electric current (usually at 100 volt) until the nucleic acid exits from the gel slice (see Tables 2 and 3 page 24).**

   Optional: Follow the DNA or RNA eluted out of the gel with a hand-held UV lamp or table.

   IMPORTANT: The electro-elution time need to be adjusted for each individual sample.

7. **Reverse the polarity of the current for 120 seconds.**

This step will release the nucleic acid from the membrane.

8. **Open the *GeBAflex-tube* gently, pipetting the solution up and down carefully (at least 5 times) and transfer the solution to a clean tube.**

   Do the pipetting on the inner side of the membrane.

Note: Concentrate the extracted nucleic acid by standard concentration methods; for nucleic acid precipitation see page 25.

Elution Time Tables

In this method the elution time depends on the size of the nucleic acid fragment, the concentration of the gel, the size of the gel slice, the ratio of the polyacrylamide:bisacrylamide and the applied voltage.

IMPORTANT: The electro-elution time at the elution step needs to be adjusted for each individual sample.

Table 2: Minimum time needed to extract various DNA fragments from 4% polyacrylamide gel (29:1 polyacrylamide:bisacrylamide) at 100 volt in 1XTBE buffer.

Fragment size (bp)	Elution time (Min)
100	10-15
200	15-20
500	30-35
1000	55-60
1400	75-80

Table 3: Minimum time needed to extract DNA fragments from 1% agarose gel at 100 volt in 1XTAE buffer.

Fragment size (bp)	Elution time (Min)
500	10-15
1000	15-20
2000	25-30
5000	40-45
8000	50-55
10000	55-60

DNA or RNA precipitation

Procedure

1. Add 0.1 volume of 3M KAc pH-5.2 and 0.7-1 volume of isopropanol to the solution. Mix gently by inverting the tube several times.

   For example, add 0.3 ml of 3M KAc pH-5.2 and 2.31-3.3 ml isopropanol to a 3 ml sample.

   Note: addition of carrier (e.g. 80 µg tRNA or 80 µg glycogen) to the solution will increase the efficiency of precipitation.

2. Incubate at -20°C for 10 min.

   To increase DNA or RNA precipitation yield incubate the samples over night at –20°C.

3. Centrifuge the sample at 4°C for 30 min at 14,000 RPM.

4. Carefully discard the supernatant without disturbing the pellet.

5. Wash the pellet with cooled 70% ethanol.

6. Air-dry the pellet for 5-20 min.

Do not over-dry the pellet (e.g., by using a vacuum evaporator), as this will make the DNA, especially if it is of high molecular weight, difficult to redissolve.

7. Redissolve the DNA or RNA in a suitable buffer.

   Use a buffer with pH ≥8.0 for redissolving, as DNA does not dissolve readily in acidic buffers.

Troubleshooting Guide

	Cause	Comments and Suggestion
Low yield	Insufficient elution time	Increase elution time. Increase applied voltage.
	Current polarity was not reversed	Reverse the polarity of the current for 120 second.
	Incomplete emptying of the tube from the macromolecules-containing solution	Make sure to empty all the macromolecules containing solution at the end of elution.
	Ineffective precipitation	Use suitable precipitation procedures.
	Tube not fully immersed in the buffer of the electrophoresis tank	Fully immerse the tube in the buffer of the electrophoresis tank.
	Gel slice not fully immersed in the buffer inside the tube	Fully immerse the gel slice in buffer inside the tube
	More than one gel slice into the tube	Don't fill the tube with several gel slices, for large gel slices use more than one tube
	The electric current don't pass through the tube	The two membranes of the *GeBAflex-tube* must be

		parallel to the electric field
Long elution time	Low applied voltage	Increase applied voltage.
	Gel slice is not fully immersed in the buffer inside the tube	Fully immerse the gel slice in buffer inside the tube
	Cause	Comments and Suggestion
	Tube not fully immersed in the buffer of the electrophoresis tank	Fully immerse the tube in the buffer of the electrophoresis tank.
Macromolecules containing solution reduced after elution	Membrane not wetted before elution	Wet the membrane for 5 min with dH_2O before elution
	Pinhole in the membrane, due to careless handling of the tube	Change tube
Presence of air bubbles in the tube	Insufficient dH_2O or running buffer inside the tube	After inserting the gel slice in the tube, fill the tube to the top .

Ordering Information

Product	Contents	Cat. No.
GeBAflex-tube **kits for extraction and dialysis**		
Maxi *GeBAflex-tube* (5)	5 *GeBAflex-tube* of 3500 cut-off, supporting tray, floating rack	T030
Maxi *GeBAflex-tube* (15)	15 *GeBAflex-tube* of 3500 cut-off, supporting tray, floating rack	T035
Maxi *GeBAflex-tube* (5)	5 *GeBAflex-tube* of 6000-8000 cut-off, supporting tray, floating rack	T040

Maxi *GeBAflex-tube* (15)	15 *GeBAflex-tube* of 6000-8000 cut-off, supporting tray, floating rack	T045
Maxi *GeBAflex-tube* (5)	5 *GeBAflex-tube* of 12000-14000 cut-off, supporting tray, floating rack	T050
Maxi *GeBAflex-tube* (15)	15 *GeBAflex-tube* of 12000-14000 cut-off, supporting tray, floating rack	T055
Maxi *GeBAflex-tube* & *ProteoConD* (5)	5 *GeBAflex-tube* of 3500 cut-off, 5 *ProteoConD* columns, buffers, supporting tray, floating rack	PDT030
Maxi *GeBAflex-tube* & *ProteoConD* (15)	15 *GeBAflex-tube* of 3500 cut-off, 15 *ProteoConD* columns, buffers, supporting tray, floating rack	PDT035
Maxi *GeBAflex-tube* & *ProteoConN* (5)	5 *GeBAflex-tube* of 3500 cut-off, 5 *ProteoConN* columns, buffers, supporting tray, floating rack	PNT030
Maxi *GeBAflex-tube* & *ProteoConN* (15)	15 *GeBAflex-tube* of 3500 cut-off, 15 *ProteoConN* columns, buffers, supporting tray, floating rack	PNT035
***GeBAflex-tube* kits for dialysis**		
Maxi *GeBAflex-tube* (5)	5 *GeBAflex-tube* of 3500 cut-off, floating rack	D030
Maxi *GeBAflex-tube* (15)	15 *GeBAflex-tube* of 3500 cut-off, floating rack	D035
Maxi *GeBAflex-tube* (5)	5 *GeBAflex-tube* of 6000-8000 cut-off, floating rack	D040
Maxi *GeBAflex-tube* (15)	15 *GeBAflex-tube* of 6000-8000 cut-off, floating rack	D045
Maxi *GeBAflex-tube* (5)	5 *GeBAflex-tube* of 12000-14000 cut-off, floating rack	D050
Maxi *GeBAflex-tube* (15)	15 *GeBAflex-tube* of 12000-14000 cut-off, floating rack	D055
Related Products		

Midi GeBAflex-tube (15)	15 *GeBAflex-tube*, 3500 cut-off, buffers, supporting tray, floating rack	T011
Midi GeBAflex-tube (15)	15 *GeBAflex-tube* of 6000-8000 cut-off, Buffers, supporting tray, floating rack	T021
Midi GeBAflex-tube (30)	30 *GeBAflex-tube* of 3500 cut-off, buffers, supporting tray, floating rack	T012
Midi GeBAflex-tube (30)	30 *GeBAflex-tube* of 6000-8000 cut-off, buffers, supporting tray, floating rack	T022
ProteoConN kit for concentration of native protein	10 concentration column, beads, buffers and handbook	PN010
ProteoConD kit for concentration of denatured-protein	10 concentration column, beads, buffers and handbook	PN010
SeeBand protein staining solution	500 ml solution and handbook	SB010
SeeBand Forte protein staining solution	500 ml solution and handbook	SB020
Buffer MS	5 ml	T103